

In the Claims:

Please amend the claims as indicated:

1. (Currently Amended) An article comprising diamond deposited on an aperiodic open-celled ceramic framework material substrate, said framework material substrate at least partially filled with a filler material.

2. (Original) The article of claim 1 wherein said framework material substrate comprises a material compatible with a diamond deposition process.

3. (Original) The article of claim 1 wherein said framework material substrate comprises a material incompatible with a diamond deposition process coated with a material compatible with a diamond deposition process.

4. (Original) The article of claim 1 wherein said diamond has a thickness of at least about 2 microns.

5. (Original) The article of claim 1 wherein said diamond is fully coalesced.

6. (Previously Amended) The article of claim 1 wherein said filler material substantially completely fills voids in said framework material substrate.

7. (Original) The article of claim 1 wherein said filler material is chosen from the group including organic materials, inorganic ceramic materials, magnetic materials, and metallic materials.

8. (Currently Amended) An article comprising diamond doped with non-diamond material deposited on an aperiodic open-celled ceramic framework material substrate.

9. (Original) The article of claim 8 wherein said framework material substrate comprises a material compatible with a diamond deposition process.

10. (Original) The article of claim 8 wherein said framework material substrate comprises a material incompatible with a diamond deposition process coated with a material compatible with a diamond deposition process.

11. (Original) The article of claim 8 wherein said diamond doped with non-diamond material has a thickness of at least about 2 microns.

12. (Original) The article of claim 8 wherein said diamond doped with non-diamond material is fully coalesced.

13. (Original) The article of claim 8 wherein said article is at least partially filled with a filler material.

14. (Previously Amended) The article of claim 13 wherein said filler material substantially completely fills voids in said framework material' substrate.

15. (Original) The article of claim 13 wherein said filler material is chosen from the group including organic materials, inorganic ceramic materials, magnetic materials, and metallic materials.

16. (Original) The article of claim 8 wherein said non-diamond material is at least one non-diamond material chosen from the group including phosphorus, lithium, arsenic, hydrogen, silicon, boron, carbon, sulfur and beryllium.

17. (Currently Amended) An article comprising diamond deposited on an aperiodic ceramic open-cell foam substrate, said open-cell foam substrate having voids therein, said voids at least partially filled with a filler material.

18. (Previously Amended) The article of claim 17 wherein said open-cell foam substrate comprises a material compatible with a diamond deposition process.

19. (Previously Amended) The article of claim 17 wherein said open-cell foam substrate comprises a material incompatible with a diamond deposition process coated with a material compatible with a diamond deposition process.

20. (Original) The article of claim 17 wherein said diamond has a thickness of at least about 2 microns.

21. (Original) The article of claim 17 wherein said diamond is fully coalesced.

22. (Previously Amended) The article of claim 17 wherein said filler material substantially completely fills said voids.

23. (Currently Amended) An article comprising diamond doped with non-diamond material deposited on an aperiodic ceramic open-cell foam substrate, said open-cell foam substrate having voids therein.

24. (Previously Amended) The article of claim 23 wherein said open-cell foam substrate comprises a material compatible with a diamond deposition process.

25. (Previously Amended) The article of claim 23 wherein said open-cell foam substrate comprises a material incompatible with a diamond deposition process coated with a material compatible with a diamond deposition process.

26. (Original) The article of claim 23 wherein said diamond doped with non-diamond material has a thickness of at least about 2 microns.

27. (Original) The article of claim 23 wherein said diamond doped with non-diamond material is fully coalesced.

28. (Previously Amended) The article of claim 23 wherein said voids are at least partially filled with a filler material.

29. (Previously Amended) The article of claim 28 wherein said filler material substantially completely fills said voids.

30. (Original) The article of claim 28 wherein said filler material is chosen from the group including organic materials, inorganic ceramic materials, magnetic materials, and metallic materials.

31. (Original) The article of claim 23 wherein said non-diamond material is at least one non-diamond material chosen from the group including phosphorus, lithium, arsenic, hydrogen, silicon, boron, carbon, sulfur and beryllium.

32. (Currently Amended) An article comprising diamond deposited on an aperiodic open-celled ceramic framework material substrate, said diamond at least partially coated with a catalytic material.

33. (Original) The article of claim 32 wherein said framework material substrate comprises a material compatible with a diamond deposition process.

34. (Original) The article of claim 32 wherein said framework material substrate comprises a material incompatible with a diamond deposition process coated with a material compatible with a diamond deposition process.

35. (Original) The article of claim 32 wherein said diamond has a thickness of at least about 2 microns.

36. (Currently Amended) The article of claim 32 wherein said catalytic material is chosen from the group including ~~palladium~~, zeolites, enzymes, antibodies, titanium dioxide, and the platinum group elements and alloys thereof.

Claims 37-79 (Withdrawn)